

REMARKS

In the Office Action dated August 14, 2008, claims 41-45, 47-50 and 53 were rejected under §112, second paragraph, as being indefinite. The Examiner stated in claim 41, it is unclear whether "said EMG signal" of line 13 refers to "an EMG-signal" of line 9. The Examiner stated it is unclear how "said EMG signal" can be filtered from a raw signal of which it has already been separated.

In response, independent claim 41 has been editorially amended to make clear that the raw signal contains a contribution that represents the EKG signal of the subject and a contribution that represents the EMG signal of the subject. It is these respective contributions that are estimated in accordance with the present invention and then the estimated signals are used to define a window within which the actual EMG signal is filtered out of the raw signal. The estimated signals, therefore, are not the actual EMG or EKG signals, but are only estimates thereof that are used to define the window, that is then used to extract (filter out) the actual EMG signal from the raw signal.

Amended claim 41 and the claims depending therefrom are therefore submitted to be in full compliance with all provisions of §112, second paragraph.

Claims 41-45, 47 and 53 additionally were rejected under 35 U.S.C. §102(b) as being anticipated by Zarychta.

This rejection is respectfully traversed for the following reasons.

As briefly noted above, in accordance with the present invention, an EMG window is determined that is dependent on the estimation of the contribution of the EKG signal to the raw signal, and an estimation of the contribution of the EMG signal to the raw signal. These estimated signals are then used to identify a frequency

range in the raw signal, and the EMG signal is filtered out only within that frequency range.

As set forth in new claim 80 submitted herein, in one embodiment the frequency range that is determined for filtering out the EMG signal is a frequency range wherein the contribution of the EKG signal to the total raw signal is weaker than the contribution of the EMG signal to the total raw signal. This is supported in the specification as originally filed, for example, in the paragraph beginning at page 3, line 7 of the substitute specification.

In substantiating the rejection based on Zarychta, the Examiner stated the time range between t_0 and t_{17} shown in Figures 6A, 6B and 6C corresponds to the determination of a window in which an EMG signal is filtered out of a raw signal. Although this is a true statement, this feature that is disclosed in the Zarychta reference does not correspond to the explicit language of claim 1. The designations t_0 and t_{17} in the figures of Zarychta are purely arbitrary and are simply used to designate the passage of time from an arbitrarily selected starting point, namely t_0 . This time lapse merely happens to end at time t_{17} , because this is all that is shown in the figures, but the time in Zarychta extends indefinitely and the figures merely represent an arbitrarily selected “snapshot” of the overall signal. There is nothing whatsoever that is special or uniquely defined with regard to where this ‘snapshot’ takes place that is shown in Figures 6A through 6C.

Moreover, although it is true that, as in the present application, the raw signal inherently includes components that represent the ECG signal and the EMG signal, there is no estimation of either of those signals that is disclosed in the Zarychta reference. The Zarychta reference is an example of the prior art discussed in the

introduction portion of the present application, wherein an attempt is made to filter those respective components out of the raw signal by “brute force.” The EMG and EKG signals in Zarychta referred to by the Examiner are the *actual* signals that have been extracted from the raw signal, and no effort is made in the Zarychta reference to estimate either of those signals and then to determine an appropriate window in which the EMG signal will then be filtered out of the raw, as disclosed and claimed in the present application.

In summary, there is nothing disclosed in the Zarychta reference that represents any type of analysis of the raw signal that is undertaken prior to filtering the EMG signal out of the raw signal so as to give the filtered-out EMG signal the “best chance” of being accurate. There certainly is no disclosure in the Zarychta reference to determine the aforementioned window in a frequency range wherein the contribution of the EKG signal is weak in comparison to the contribution of the EMG signal, as set forth in new dependent claim 80.

Applicants therefore respectfully submit that the Zarychta reference does not disclose all of the elements of claim 41 as arranged and operating in that claim, and therefore the Zarychta reference does not anticipate claim 41, or any of claims 42-45, 47 or 53 depending therefrom.

Claims 48-50 were rejected under 35 U.S.C. §103(a) as being unpatentable over Zarychta in view of Sinderby et al. The above discussion concerning the Zarychta reference is equally applicable to this rejection. Even if the Examiner’s characterization of the teachings of the Sinderby et al. reference is correct, modifying the Zarychta reference in accordance with those teachings of Sinderby et al. still would not result in the subject matter of any of claims 48-50, each of which embody

the subject matter of claim 41 therein, in view of the above-discussed deficiencies in the disclosure of the Zarychta reference with regard to the subject matter of claim 41.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required, or to credit any overpayment to account No. 501519.

Submitted by,

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